

# PROFESSIONAL NETWORK ANALYSIS AND EXPERTISE MINING AT FDA

Expanding R&D Value Measurement with  
Profiles Research Networking Software

# Presenters

- **Jessica N. Hernández** is a Program Analyst in the Office of Science and Engineering Laboratories (OSEL) at the U.S. Food & Drug Administration. Her work encompasses a broad range of information services and technology initiatives. She holds a M.A. in Information Resources & Library Science and M.S. in Educational Technology from the University of Arizona.
- **Rebecca Jacob** is an Electronic Resources Librarian at the FDA Library. Her current focus is on Electronic Resources Management and Library Technology. Rebecca obtained her MSLS from the University of North Carolina Chapel Hill.
- **Nichole Rosamilia** graduated in 2011 from the University of Maryland with a Master of Library Science (MLS). She is currently an ORISE fellow in the Office of Science and Engineering Laboratories (OSEL) at the FDA, where she is involved in several data and information management projects. Previously, Nichole worked on the Social Media Team at the National Archives and in the Special Collections of the National Agricultural Library.

# Background

## □ About Us

- ▣ [U.S. Food & Drug Administration](#) (FDA) and federal R&D landscape
- ▣ [Office of Science & Engineering Laboratories](#) (OSEL) in the [Center for Devices & Radiological Health](#) (CDRH)

## □ Business Need

- ▣ R&D value measurement
- ▣ Visibility
- ▣ Collaboration

# Project Overview

- CDRH [Innovation Pathway](#) 2.0
  - [Entrepreneur-in-Residence](#) Anjali Kataria
  - CDRH Innovation Lab
- Sponsors and stakeholders
  - CDRH Office of the Center Director
  - FDA Office of Information Management
  - White House Office of Science and Technology Policy (OSTP)
- Goal
  - Agile development of Profiles micro-pilot with OSEL use case

# Core Collaborators

- ▣ Anjali Kataria, Entrepreneur-in-Residence, CDRH OCD
- ▣ Janet Gentry, Chief Information Architect, FDA OIM
- ▣ Dr. Joel Myklebust, Deputy Director of Science & Strategic Initiatives, CDRH OSEL
- ▣ Jessica N. Hernández, Business Owner, CDRH OSEL
- ▣ Sharon Campbell, Project Manager, FDA OIM
- ▣ Joel Carlman, Innovation Lab Project Manager, Acumen Solutions
- ▣ Nancy Pickard, Project Manager, Recombinant
- ▣ Nick Brown, Developer, Recombinant
- ▣ Rebecca Jacob, Electronic Resources Librarian, FDA Library
- ▣ Nichole Rosamilia, ORISE Fellow, CDRH OSEL
- ▣ Nels Anderson, Soma Kalb and Tammy Wirt, CDRH Leadership Readiness Program

# Profiles RNS (<http://profiles.catalyst.harvard.edu/>)

- Background
  - ▣ Dr. Griffin Weber, Chief Technology Officer, Harvard University Medical School
  - ▣ Funded by NIH and NSF
- Platform Overview
  - ▣ Features
  - ▣ Functions
- CDRH/FDA customizations
  - ▣ Data
  - ▣ Expertise algorithm
  - ▣ Ontology
  - ▣ Analytics

# Data Sources

## □ Publications

- ▣ PubMed
- ▣ Web of Science

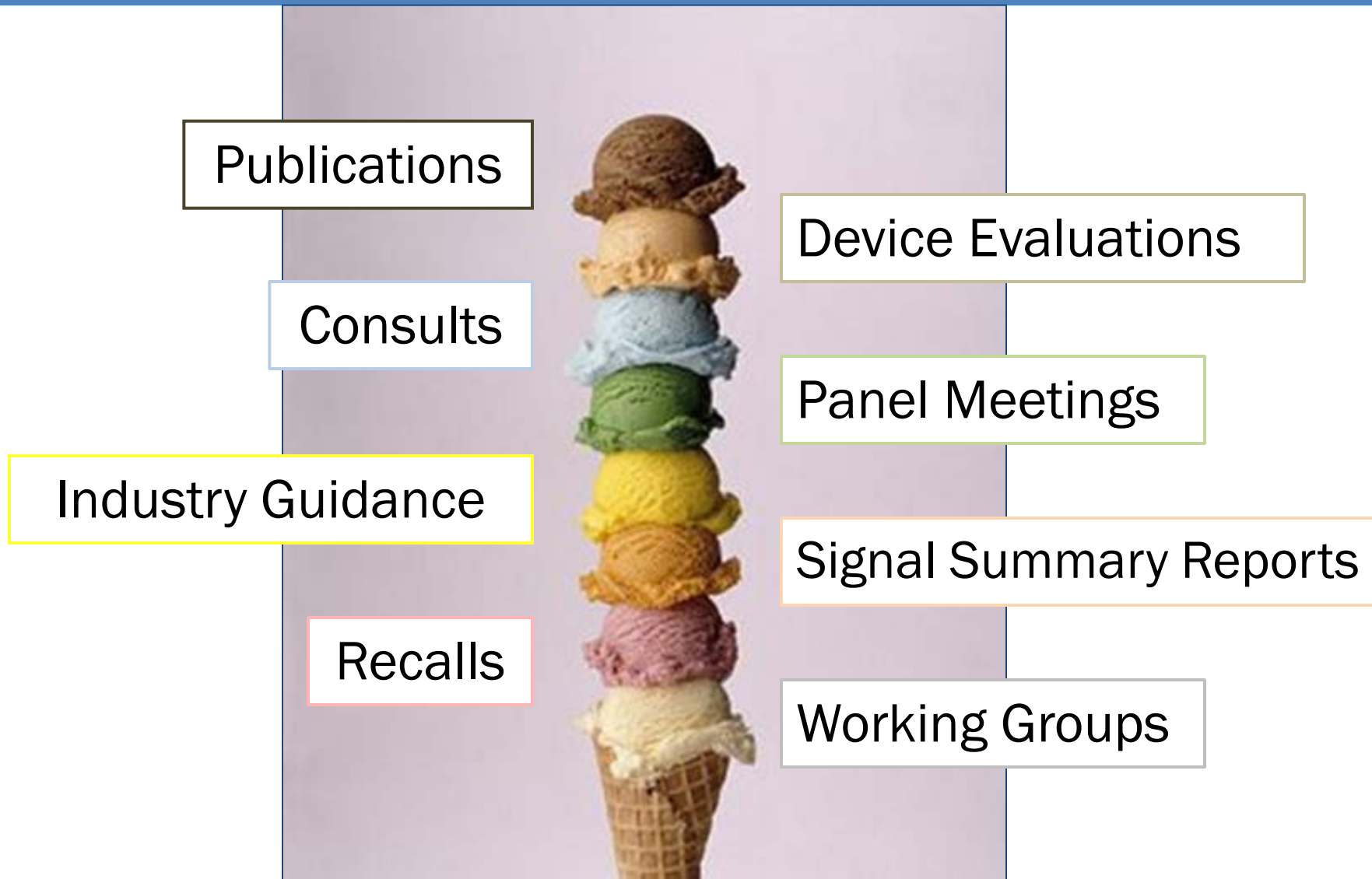
## □ Food & Drug Administration

- ▣ Directory information
- ▣ Center Tracking System (CTS)
- ▣ Standards committees
- ▣ Working Groups

## □ User-generated

- ▣ Curricula vitae
- ▣ Traction

# Expertise Algorithm





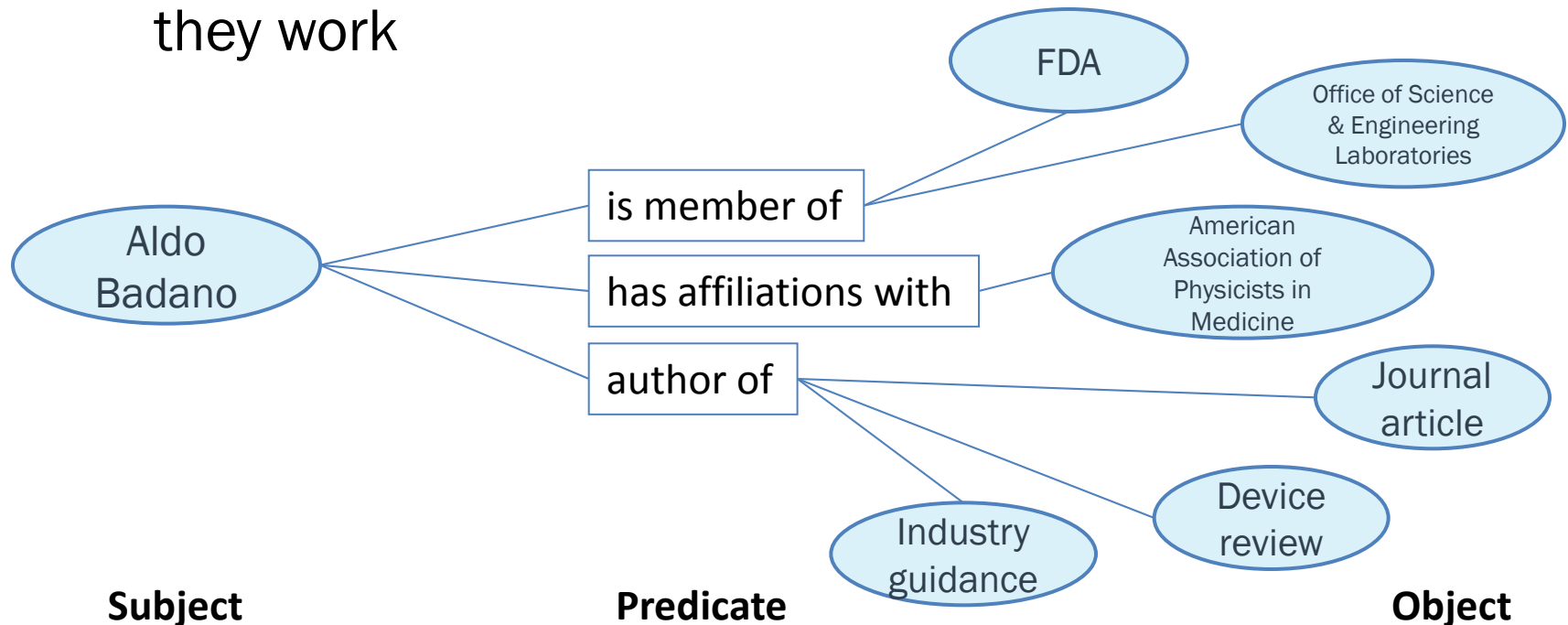
# Ontology

## □ VIVO ontology

### ▣ Resource Description Framework (RDF) triples

■ subject – predicate – object

### ▣ Represent researchers and the full context in which they work



# Author Disambiguation

- Challenge of matching authors with institutions
- Profiles disambiguation engine
- [ORCID](#) (Open Researcher and Contributor ID)

# Analytics

- Web of Knowledge web services API
- [InCites](#)
- PubMed
  - <http://profiles.catalyst.harvard.edu/?pg=bibliometrics>
- Metrics on other FDA content?
  - ▣ Code, computational models and equations
  - ▣ Data sets

# Next Steps

---

- Phase II and III
  - ▣ Data sources
  - ▣ Analytics
  - ▣ Reporting
  - ▣ ORCID
  - ▣ Testing
  - ▣ Roll-out
- Future Directions
  - ▣ Scale-up
  - ▣ Public facing site

# Demonstration

---

- Profiles at FDA:

<https://profiles.scinet.fda.gov/search/>

# Acknowledgements

## □ Core Team

- ▣ Anjali Kataria, Entrepreneur-in-Residence, CDRH OCD
- ▣ Janet Gentry, Chief Information Architect, FDA OIM
- ▣ Dr. Joel Myklebust, Deputy Director of Science & Strategic Initiatives, CDRH OSEL
- ▣ Jessica N. Hernández, Business Owner, CDRH OSEL
- ▣ Sharon Campbell, Project Manager, FDA OIM
- ▣ Joel Carlman, Innovation Lab Project Manager, Acumen Solutions
- ▣ Nancy Pickard, Project Manager, Recombinant
- ▣ Nick Brown, Developer, Recombinant
- ▣ Rebecca Jacob, Electronic Resources Librarian, FDA Library
- ▣ Nichole Rosamilia, ORISE Fellow, CDRH OSEL
- ▣ Nels Anderson, Soma Kalb and Tammy Wirt, CDRH Leadership Readiness Program

## □ Senior Champions

- ▣ Dr. Griffin Weber, Inventor, Harvard University
- ▣ Dr. Eric Perakslis, Chief Information Officer, FDA OIM
- ▣ Dr. Jeffrey Shuren, Center Director, CDRH OCD
- ▣ Dr. Steven Pollack, Office Director, CDRH OSEL

# Contact Us

- Jessica N. Hernández, MLS, MS
  - ▣ (301) 796-0511
  - ▣ [Jessica.Hernandez@fda.hhs.gov](mailto:Jessica.Hernandez@fda.hhs.gov)
- Rebecca Jacob, MSLS
  - ▣ (301) 796-2384
  - ▣ [Rebecca.Jacob@fda.hhs.gov](mailto:Rebecca.Jacob@fda.hhs.gov)
- Nichole Rosamilia, MLS
  - ▣ (240) 402-5066
  - ▣ [Nichole.Rosamilia@fda.hhs.gov](mailto:Nichole.Rosamilia@fda.hhs.gov)